#3257

TECHNICAL MEMORANDUM
Utah Coal Regulatory Program

April 28, 2009

TO: Internal File

THRU: Daron Haddock, Permit Supervisor

FROM: Ingrid Wieser, Lead, Environmental Scientist II
Priscilla Burton, CPSSc, Environmental Scientist III
Steve Christensen, Hydrologist

RE: Mitigation & Abatement Plan, West Ridge Resources, West Ridge Mine, C/007/0041 and Project #3257

SUMMARY:

On January 29, 2009 the Division of Oil, Gas and Mining (the Division) issued a Notice of Violation (NOV #10033) to the West Ridge Mine (the Permittee) after the mining company notified the Division of excess coal fines in the streambed below the mine water discharge point and extending outside the permit area. The Permittee was found to be in violation of the following regulations: R645-301-742.111, R645-301-742.112, R645-301-742.121, R645-301-742.210, R645-301-750 and R645-301-751.

In order for the Division to find the Permittee in compliance with the aforementioned regulations, NOV #10033 listed the following five actions required by the Permittee to abate the violation:

1. *Immediately prevent to the extent possible additional contributions of sediment to the stream flow.*
2. *Identify areas impacted by coal fines and submit information including chemical analysis of parameters outlined in Table 3 & 7 of the Division's Soil and Overburden Guidelines to the Division by February 28, 2009.*
3. *Submit a mitigation/clean-up plan and time schedule to DOGM and receive approval by March 27, 2009.*
4. *Submit a detail plan to prevent additional sediment to stream flow from happening again by March 27, 2009.*
5. *Clean-up channel and reclaim all affected area by April 28, 2009.*

On February 9, 2009, the BLM granted the Permittee a Right of Way for Catchment Structure A, which allowed construction of the catchment structure to begin.

On February 10, 2009, the Division of Environmental Quality issued West Ridge a Notice of Violation and Order (Exhibit 2) for effluent in exceedence of total iron and TSS limitations at UPDES permit #UT0025640.

The Permittee submitted a Mitigation & Abatement Plan (the abatement plan) to the Division on March 27, 2009. The abatement plan states on page 2 that "It was also determined by DOGM that no SMCRA permit will be required for the catchments because they would be installed as part of the violation abatement process." This was a DOGM management decision. However, the DOGM staff has been asked to review the abatement plan, with the assumption that the regulations cited in the notice of violation must be abated by the plan and all operations conducted for the abatement must adhere to the performance standards of SMCRA. It should be noted that the Division has granted the Permittee an extension of July 27th, 2009 to abate the NOV.

FINDINGS:

Upon review of the West Ridge Mine's Coal *Fines Accumulations Mitigation and Abatement Plan*, the Division finds that additional information is required. The mitigation and abatement plan cannot receive Division approval until the following deficiencies have been met:

R645-301-114, The application must include copies of the BLM Right of Way issued on Feb 9, and Feb 23; the DWRights channel alteration permit issued Feb. 3; and the SITLA Right of Entry agreement issued on Feb. 17, 2009 so that the legal description of the affected area is known and so that the Division can process the abatement plan, which refers to guidance from these documents. [PWB]

R645-301-750 and R645-301-340: Provide a detailed plan on how the catchments will be reclaimed including re-contouring the stream bed, removing embankments, preparing the seedbed, and seeding in order to restore the habitat along the corridor. • Provide a seed mix that will be used once the catchments have been removed and equipment access and storage areas have been backfilled in order to control erosion and improve the habitat that existed before the disturbance. • Include the pre-construction photographs mentioned on Page 3 of the Abatement plan that were taken of all of the catchments sites and are to be used during reclamation. • Per item # 3 of NOV # 10033, the Permittee must submit a time schedule to the Division for completion of Mitigation/Clean-up activities. If it is intention of the Permittee to retain the

catchments beyond the established abatement date, the Division will require permitting under SMCRA. [IW, SKC]

R645-301-742.112, The abatement plan states on p. 5 that a flocculant has been used to reduce the total iron and TSS levels in the discharge water. Please provide the chemical name of the flocculant and the Material Safety Data Sheets (MSDS) for the chemical. [PWB]

In addition, the Permittee should update the abatement plan if additional flocculant is to be applied above Sediment Basin A. During the field inspection on April 29th, 2009, Mr. Dave Shaver indicated that a flocculant bench test would be performed in an attempt to remove additional TSS from the mine-water discharge. Mr. Shaver indicated that if the test were encouraging, the additional flocculant would be administered up gradient from Sediment Basin A. If this is to occur, the plan must be revised to reflect that change. [SKC]

R645-301-742.121, Exhibit 6 indicates that 75% of the particles are < 200 mesh, however the laboratory analysis of particle size was not provided. The application must include the laboratory report for particle size distribution and saturation percentage. •Page 2 of the abatement plan states samples were collected, but must provide details about sample collection, such as number of samples taken to create a representative sample, locations of sampling, and sample size. [PWB]

R645-301-742.210, Exhibit 4 and 5 drawings must be P.E. certified. [PWB]

R645-301-750, The river distance between sediment basins should be reported in the application. • The application must include the photographic documentation of the pre-construction conditions that is referred to on page 2 for sites A – F. •Disposal of the excelsior logs should be described at an authorized waste disposal site. [PWB]

R645-301-751, The abatement plan needs to provide further clarification as to the handling/routing of the in-mine water. Based upon a conversation with Mr. David Hibbs (Director, Engineering West Ridge Mine) on April 15th, 2009, the piping required to fully implement the long-term in-mine water treatment plan is on order and currently unavailable. As a result, Mr. Hibb's indicated that the long-term plan would not be fully operational for months. The letter from Mr. Hibbs provided in Exhibit 8 of the abatement plan indicates that the long-term plan would be "put into service in early April 2009". As this is no longer the case, the abatement plan needs to be revised to accurately reflect the proposed timing changes. [SKC]

R645-300-146 and R645-301-750 and R645-301-310 and R645-301–742.310, The sediment pond must be regulated by DOGM under the R645 rules and an amendment to the current West Ridge Mine Permit must be submitted and approved by the Division prior to construction. The abatement plan and Sediment pond contingency plan section must include a

plan to receive approval from the Division before construction. Applications for Significant Permit revisions and Permit Amendments should be submitted to the Division at least 120 days and 60 days, respectively, before the change in operations is expected to be implemented. Although mine waste is usually regulated by DOGM, according to R315-2.4 (a)(2), the Utah DEQ regulates the sludge generated from a point source discharge. Consult with the DEQ for the pond treatment option, in accordance with R645-301-742.312.4. [PWB, IW]

R645-400-320 and R645-301-750, The Division, as remedial Item #2 of the Notice of Violation, requests that the Permittee identify the areas impacted by coal fines. Please submit a detailed map showing the extent of the coal fines as well as acreage of disturbed areas related to the coal fines clean up (catchment areas, access roads, equipment access and material storage areas, etc). •The BLM Right of Way stipulated that any area within the right of way that was to be disturbed should be brush-hogged and the topsoil should be removed and stockpiled. Include vegetation and soil removal methods in the plans and make a commitment to fulfill this if any other area is disturbed (expansion of current catchment areas, sediment pond construction, additional roads, etc.) • Provide the location of the waste disposal facility that will accept the coal fines pumped from the catchments as well as any other waste associated with the clean up. If final disposal is at a permitted mine site, the Division will require that the sludge material be kept out of contact with groundwater and surface water and be buried under four feet of fill, based upon the information provided. [IW, PWB]

TECHNICAL ANALYSIS:

GENERAL CONTENTS

RIGHT OF ENTRY

Regulatory Reference: 30 CFR 778.15; R645-301-114

Analysis:

The un-named intermittent stream affected by the mine discharge is tributary to Grassy Trail Creek. The flow in the intermittent stream is constant at 800 gpm, due to the mine water discharge (Abatement plan p.3). The intermittent stream flows through Clark's Valley. The legal description of the area was not written in the narrative, but is shown in Exhibit 3, Location map as T. 14 S., R. 13 E. Sections 15, 21, 26, and 29; and T. 15 S, R. 12 E. Sec. 3. If they were included in the abatement plan, right of entry documents would provide legal descriptions.

Page 2 of the abatement plan states, "BLM issued a right-of-way for catchment Site A on Feb. 9 and for other sites and access roads on Feb. 23; Division of Water Rights issued channel alteration permits on Feb. 3; and STILA issued right-of-entry agreements for the access roads on Feb. 17." These documents were not included in the abatement plan.

BLM as the land managing agency has been very instrumental in drawing up the abatement plan. Page 3 of the plan states, "All reclamation will be done in accordance with the terms of the BLM right-of-way grant. Page 4 of the abatement plan states, "the sediment pond facility will be installed as per the current DOGM guidelines, as well as any other SITLA requirements, regarding topsoil removal and storage, interim sediment control, reclamation, etc." Without these agreements in hand, the Division cannot process this abatement plan, which continually refers to BLM, SITLA, DWRights and DEQ concurrence.

Findings:

R645-301-114, The application must include copies of the BLM Right of Way issued on Feb 9, and Feb 23; the DWRights channel alteration permit issued Feb. 3; and the SITLA Right of Entry agreement issued on Feb. 17, 2009 so that the legal description of the affected area is known and so that the Division can process the abatement plan, which refers to guidance from these documents. [PWB]

OPERATION PLAN

HYDROLOGIC INFORMATION

Regulatory Reference: 30 CFR Sec. 773.17, 774.13, 784.14, 784.16, 784.29, 817.41, 817.42, 817.43, 817.45, 817.49, 817.56, 817.57; R645-300-140, -300-141, -300-142, -300-143, -300-144, -300-145, -300-146, -300-147, -300-147, -300-148, -301-512, -301-514, -301-521, -301-531, -301-532, -301-533, -301-536, -301-542, -301-720, -301-731, -301-732, -301-733, -301-742, -301-743, -301-750, -301-761, -301-764.

Analysis:

Acid- and Toxic-Forming Materials and Underground Development Waste

One requirement identified to abate the NOV was for the Permittee to provide analysis of the material that was discharged and ultimately deposited in the C Canyon Drainage.

NOV #10033 Action Item 2: *Identify areas impacted by coal fines and submit information including chemical analysis of parameters outlined in Table 3 & 7 of the Division's Soil and Overburden Guidelines to the Division by February 28, 2009.*

The Permittee has included sludge analyses in Exhibit 6, which included chemical analysis of parameters outlined in Table 3&7 of the Divisions Soil and Overburden Guidelines, although not by the recommended methods. These analyses were provided on February 16th, 2009 (prior to submitting the Mitigation and Abatement Plan). At that time, the Division and the Permittee discussed laboratories that could analyze for hot water soluble selenium and water-soluble boron and the saturation extract values of sodium, magnesium, and calcium (necessary for the SAR calculation). These subsequent analyses were not provided.

The chemical characteristics of the Total Suspended Solids in the mine discharge water are represented by the sludge sample, which was taken from the stream channel outside the permit area (Exhibit 6). Page 2 of the abatement plan states that samples of the material were collected and analyzed, but does not provide detail about sample collection, size or location.

America West Analytical labs in Salt Lake City analyzed for total metals using EPA methods. The laboratory analysis sheet specifies the method used for analysis of the metals. In a telephone conversation on April 30, 3009, America West Analytical Labs stated that the sample was 66% moisture and confirmed that the water was not separated off in preparation, but the entire sample was digested. Subsequent reporting in mg/kg solid was corrected by the amount of water in the sample.

The pH of the sludge was 7.92 and the conductivity was reported as 0.87 mmhos/cm. If the reported analyses were done on a total digestion of the sludge sample, then the eight metals monitored under RCRA (As, Ba, Be, Cd, Cr, Pb, Hg, Ag) do not exceed contaminant levels for hazardous waste (email communication from Robert Blake, April 28, 2009). According to Mr. Blake, if the reports are for total digestion of the sludge sample, then the total metal analysis values divided by 20, approximate the water extract values obtained by the Toxicity Characteristic Leaching Procedure (TCLP, upon which EPA's hazardous waste concentration limits in 40 CFR 261.24 are gased.) Other metals of concern in the sludge are: Al @ 6,100 mg/kg and Fe @ 18,000 mg/kg. The concentrations of aluminum, zinc and nickel may be of concern for surface water, except that the water flow does not reach Grassy Trail Creek (personal communication with Jeff Studenka, April 28, 2009). The level of total petroleum hydrocarbons was reported as 3,600 mg/kg, also a concern for surface waters.

The parameters outlined in the Division's Guidelines for Topsoil and Overburden are also reported in Exhibit 6, although the original laboratory reports for some parameters have not been provided. The application must contain all laboratory reports for all parameters, including particle size analysis and percent saturation. The selenium value of 3.7 mg/kg is based upon a total metal analysis, not hot water selenium as was requested. The total boron value was reported as <150 mg/kg, although the water soluble boron method was requested. The equivalent TCLP values of 0.185 mg/kg Se and 7.5 mg/kg B exceed Division guidelines for the surface four feet of rooting zone (2008 Guidelines for Topsoil and Overburden, Table 8). The SAR value could not be calculated from the information provided.

Based upon information provided, the Division finds that the sludge material must be kept out of contact with groundwater and surface water and buried under four feet of fill, if final disposal were at a permitted mine site.

On March 2, 2009, the Permittee requested an extension for the due date for reported areas impacted by coal fines due to freezing temperatures inhibiting access. The due date was modified to March 27, 2009. It should be noted that the Division granted the Permittee an extension of July 27th, 2009 to abate the NOV. The extension was granted due to weather conditions.

Sediment Control Measures

The Permittee was found to be in violation of the following sediment control regulations: R645-301-742.111, R645-301-742.112, R645-301-742.121 and R645-301-742.210. In order for the Division to find the Permittee in compliance with the aforementioned regulations and abate the violation, NOV #10033 listed four actions (relative to Sediment Control) to be conducted by the Permittee:

NOV #10033 Action Item 1: *Immediately prevent to the extent possible additional contributions of sediment to the stream flow.*

NOV #10033 Action Item 3: *Submit a mitigation/clean-up plan and time schedule to DOGM and receive approval by March 27, 2009.*

NOV #10033 Action Item 4: *Submit a detail plan to prevent additional sediment to stream flow from happening again by March 27, 2009.*

NOV #10033 Action Item 5: *Clean-up channel and reclaim all affected area by April 28, 2009.*

The abatement plan was reviewed (See below) in order to determine if the aforementioned action items were adequately addressed.

NOV #10033 **Action Item 1:** *Immediately prevent to the extent possible additional contributions of sediment to the stream flow.*

Upon review of: the submitted abatement plan, water quality data obtained from the mine water discharge point (Outfall 002 under the Division of Water Quality's (DWQ) UPDES requirements) and per discussions with West Ridge representatives, the Division finds that the

Permittee has, to the extent possible, prevented additional contributions of sediment to the stream flow.

Exhibit 8 of the abatement plan contains a discussion of the mine-water routing and treatment utilized in the underground works. The information (provided by Mr. David Hibbs, Director of Engineering for the West Ridge Mine) discusses the following:

- Mine water routing that was in place during the coal fine discharge,
- Proposed short-term mine water routing,
- Long-term approach to prevent more coal material from discharging to the C Canyon drainage.

The ground water routing plan in place at the time the coal fines were discharged involved pumping the water from the mains to the 4th Right section of District 1. The water would then travel through the previously mined section and be picked up at the 5th Right section of District 1 where it was then pumped to the surface and discharged into the C Canyon Drainage.

In an effort to prevent additional contributions of sediment to the receiving drainage, the Permittee modified their underground mine-water routing. The modification is outlined as a 'short term proposal' in Exhibit 8. The encountered ground water is currently pumped to the 8th Right section of District 2. The water is then allowed to travel through this previously mined area prior to being picked up at the 9th Right section of District 2. At this point, the mine water is then (as done previously) routed to the 4th Right section of District 1 and collected at the 5th Right section of District 1 prior to discharging at the surface. By routing the water to the 8th Right section of District 1 and allowing it to travel to the 9th Right section, additional settling time is provided. In addition, the Permittee has modified the amount of flocculant added to the mine-water prior to discharging to the surface. After consulting with a Nalco Chemical Company representative (company that provides Permittee with chemical treatment supplies), the Permittee increased the amount of flocculant treatment to the mine-water in hopes of reducing the level of Total Suspended Solids (TSS).

DWQ Notice and Order I09-01 refers to water concentrations of total Fe and total suspended solids based upon UPDES outfall limitations. The total Fe and TSS reports for the last two years are presented in Exhibit 7. During the sludge-sampling period (January 2009), the total Fe reported in mine discharge water was 1.82 mg/L and TSS was 53 mg/L.

In order to evaluate the extent to which the Permittee had prevented additional contributions of sediment to the stream flow, TSS levels have been monitored closely as coal fine material contained within the mine-water discharge would be detected with the analysis of this parameter. Per Division of Water Quality (DWQ) issued UPDES Permit No. UT0025640, the TSS in the discharge at Outfall 002 (mine-water discharge point) cannot exceed 25 milligrams/liter (mg/L) for a monthly average. Per discussions with DWQ personnel and upon

reviewing the recently submitted TSS data obtained from Outfall 002, the discharge from the West Ridge mine has returned to compliance for TSS. Two samples were collected during the months of February and March with corresponding average TSS results of 24 mg/L and 20 mg/L respectively. According to Mr. Jeffrey Studenka of DWQ, as of April 6th, 2009, the TSS levels obtained from Outfall 002 were 16 mg/L. The cause of the reduction in TSS is not known at this time. The re-routing of the mine water or the temporary mining cessation (as ordered by MSHA) may have caused the reduction in TSS.

The long-term proposal contained within Exhibit 8 is predicated upon providing additional retention time for the mine water prior to discharging to the surface. The long-term proposal calls for the mine discharge to be collected in sumps located in the mains. The water from the sumps will then be pumped to either the 4th West or 1st West sections. A series of retaining walls will be constructed to route the mine-water and thus provide additional retention time as the flow path is lengthened. Although the precise point at which the mine-water will be picked up and pumped to the surface is unknown at this time, Mr. Hibbs indicated it's most likely that the water will be picked up at the 6th West seal prior to being discharged to the surface.

The Division finds that the Permittee has, to the extent possible, prevented additional contributions of sediment to the stream flow.

***NOV #10033* Action Item 3:** *Submit a mitigation/clean-up plan and time schedule to DOGM and receive approval by March 27, 2009.*

Upon review, the Division finds that the Permittee submitted a mitigation/clean-up plan by email on March 27, 2009. The Division received a hard copy of the plan by mail on March 30, 2009. Exhibit 1 of the abatement plan submittal includes a letter explaining the two phases of the plan as well as the sediment pond contingency plan.

Phase 1 of the plan involves containment of the coal fines. This will be accomplished by constructing four or five catchment structures along the C canyon drainage. Currently, the construction of the catchments is underway and should be completed by mid April. The catchments are designed as settling ponds as well as filtration devices. Exhibit 4 of the abatement plan, *Typical Catchment Structure (Phase 1)*, contains a design drawing of the catchments. The catchments will continually be cleaned as they fill up with sediment. The sediment/coal fines will be disposed of at an unidentified site.

Phase 2 of the clean up will include a pre-inspection of the drainage after the catchments have been built in order to record baseline data regarding the extent of the coal fine pollution. At that time, all involved agencies will decide on an active, passive or combination approach to the clean up. The active approach would involve crews using brooms to actively sweep the fines down stream into the catchments. The passive approach would include only the stream water

flushing the fines downstream and may take longer than the active approach, but would not damage the stream armory.

Sediment Pond Contingency Plan

The Sediment ponds will be constructed on SITLA land and will only be installed as a last resort measure to capture the ultra-fines that bypass the catchments. Contrary to the Plan, the sediment pond would have to be permitted by DOGM and would amend the existing West Ridge Mine SMCRA permit. West Ridge Mine officials would need to submit a full biological survey and report conducted by a qualified biologist prior to construction approval.

Reclamation Plan and BLM Right of Way (for catchment Structure at Site A)

Photographs of the pre-construction condition at each catchment were taken in order to aid the reclamation process of each site. No topsoil was removed because the construction occurred within the drainage. According to the plan, reclamation will occur in accordance with the BLM Right of Way.

The BLM ROW (#7) indicates that for any clearing, the area will be brush-hogged, and the topsoil will be removed and stored in stockpiles.

Number 9 of the BLM ROW deals with Reclamation, Rehabilitation and Termination. It specifically states that the holder will recontour the disturbed area and obliterate all earthwork, prepare a seedbed and seed with an approved seed mixture. The Permittee does not include a plan to recontour the disturbed streambed, prepare topsoil or reseed the riparian areas.

NOV #10033 **Action Item 4:** *Submit a detail plan to prevent additional sediment to stream flow from happening again by March 27, 2009.*

Upon review of the abatement plan, the Permittee has submitted a plan to prevent additional sediment contributions to the receiving stream. In Exhibit 8, *Underground Mine Status Report Narrative*, Mr. David Hibbs (Director, Engineering West Ridge Mine) provides a discussion of the in-mine water routing. Mr. Hibbs discusses the routing that was in place at the time that the sediment was discharged to the surface stream as well as the short-term and long-term proposals for avoiding any future sediment contributions.

West Ridge Resources commits to submitting a regular status report from the Mining Engineer as to how the underground prevention of coal fines contribution is progressing due to the day-to-day irregularity of mining operations. Currently, as a short-term plan, the Engineers have rerouted the underground piping system to enhance retention time of the water. The company has also increased the flocculent application rate to drop out the TSS. For the long-term

plan, the Company plans to route the water into the most recently mined panel area of the mine. This area is being sealed and is ready for use as a sediment pond area.

The abatement plan needs to provide further clarification as to the handling/routing of the in-mine water. Based upon a conversation with Mr. David Hibbs (Director, Engineering West Ridge Mine) on April 15th, 2009, the piping required to fully implement the long-term in-mine water treatment plan is on order and currently unavailable. As a result, Mr. Hibb's indicated that the long-term plan would not be fully operational for months. The letter from Mr. Hibbs provided in Exhibit 8 of the abatement plan indicates that the long-term plan would be "put into service in early April 2009". As this is no longer the case, the abatement plan needs to be revised to accurately reflect the proposed timing changes.

***NOV #10033* Action Item 5:** *Clean-up channel and reclaim all affected area by April 28, 2009.*

As of April 15, 2009 the installation of catchments A, C, E, and F was complete. The clean-up process involved will in all likelihood extend into the fall of 2009. Due to weather conditions, the Division granted the Permittee an extension of July 27th, 2009 to complete the clean up and reclaim all affected areas.

The abatement plan stresses the problem of cleaning up the ultra-fine particles in suspension (p. 3 – 4). In order to design an adequate filtration method for these ultra fine particles, the particle size must be known. Exhibit 6 indicates that 75% of the particles are < 200 mesh, however the laboratory analysis of particle size was not provided. The application should include the laboratory report for particle size distribution.

The river distance between sediment basins should be reported in the application.

Exhibit 4 and 5 drawings must be P.E. certified.

Findings:

Upon review of the Abatement and Mitigation Plan, the Division finds that additional information is necessary. The Permittee must address the following deficiencies:

R645-301-742.112, The abatement plan states on p. 5 that a flocculant has been used to reduce the total iron and TSS levels in the discharge water. Please provide the chemical name of the flocculant and the Material Safety Data Sheets (MSDS) for the chemical. [PWB]

R645-301-742.121, Exhibit 6 indicates that 75% of the particles are < 200 mesh, however the laboratory analysis of particle size was not provided. The application must include the laboratory report for particle size distribution and saturation percentage. •Page 2 of the

abatement plan states samples were collected, but must provide details about sample collection, such as number of samples taken to create a representative sample, locations of sampling, and sample size. [PWB]

R645-301-742.210, Exhibit 4 and 5 drawings must be P.E. certified. [PWB]

R645-301-750, The river distance between sediment basins should be reported in the application. •Disposal of the spent excelsior logs should be described at an authorized waste disposal site. [PWB]

R645-301-751, The abatement plan needs to provide further clarification as to the handling/routing of the in-mine water. Based upon a conversation with Mr. David Hibbs (Director, Engineering West Ridge Mine) on April 15th, 2009, the piping required to fully implement the long-term in-mine water treatment plan is on order and currently unavailable. As a result, Mr. Hibb's indicated that the long-term plan would not be fully operational for months. The letter from Mr. Hibbs provided in Exhibit 8 of the abatement plan indicates that the long-term plan would be "put into service in early April 2009". As this is no longer the case, the abatement plan needs to be revised to accurately reflect the proposed timing changes. [SKC]

R645-300-146 and R645-301-750 and R645-301-310 and R645-301–742.310, The sediment pond must be regulated by DOGM under the R645 rules and an amendment to the current West Ridge Mine Permit must be submitted and approved by the Division prior to construction. The abatement plan and Sediment pond contingency plan section must include a plan to receive approval from the Division before construction. Applications for Significant Permit revisions and Permit Amendments should be submitted to the Division at least 120 days and 60 days, respectively, before the change in operations is expected to be implemented. [PWB, IW]

R645-400-320 and R645-301-750: The Division, as remedial Item #2 of the Notice of Violation, requests that the Permittee identify the areas impacted by coal fines. Please submit a detailed map showing the extent of the coal fines as well as acreage of disturbed areas related to the coal fines clean up (catchment areas, access roads, equipment access and material storage areas, etc). [IW]

The BLM Right of Way stipulated that any area within the right of way that was to be disturbed should be brush-hogged and the topsoil should be removed and stockpiled. Include vegetation and soil removal methods in the plans and make a commitment to fulfill this if any other area is disturbed (expansion of current catchment areas, sediment pond construction, additional roads, etc.) [IW]

Provide the location of the waste disposal facility that will accept the coal fines pumped from the catchments as well as any other waste associated with the clean up. Based upon

information provided, the Division finds that the sludge material must be kept out of contact with groundwater and surface water and buried under four feet of fill, if final disposal were at a permitted mine site. [IW, PWB]

Water-Quality Standards And Effluent Limitations

The Permittee was found to be in violation of R645-301-742.112 and –750. The Division finds that the mine-water discharge is currently in compliance with all Utah and federal water quality laws as required by R645-301-742.112 and -751. As part of the NOV abatement, item 2 of the required actions directed the Permittee to:

In order to evaluate the extent to which the Permittee has successfully prevented additional contributions of sediment to the stream flow, TSS levels have been monitored closely as any coal fine material contained within the mine-water discharge would detected with the analysis of this parameter. Per Division of Water Quality (DWQ) issued UPDES Permit No. UT0025640, the discharge at Outfall 002 (mine-water discharge point) cannot exceed 25 milligrams/liter (mg/L) for a monthly average. Per discussions with DWQ personnel and upon reviewing the recently submitted TSS data obtained from Outfall 002, the discharge from the West Ridge mine has returned to compliance for TSS. Two samples were collected during the months of February and March with corresponding average TSS results of 24 mg/L and 20 mg/L respectively. According to Mr. Jeffrey Studenka of DWQ, as of April 6th, 2009, the TSS levels obtained from Outfall 002 were 16 mg/L. The cause of the reduction in TSS is not known at this time. The re-routing of the mine water or the temporary mining cessation (as ordered by MSHA) may have caused the reduction in TSS.

In addition to the elevated TSS levels in recent months, the mine-water discharge at UPDES Outfall 002 has also produced elevated levels of iron (Fe) in recent months. The requirements of the UPDES permit set a maximum level of 1.6 mg/L for iron. Iron samples obtained for January, February and March of 2009 produced iron levels of 1.824 mg/L, 1.478 mg/L and 1.423 mg/L respectively. However, according to recently obtained iron data submitted to DWQ for the month of April, the iron level from Outfall 002 is 0.694 mg/L. The abatement plan states on p. 5 that a flocculant has been used to reduce the total iron and TSS levels in the discharge water.

Though the iron and TSS levels from Outfall 002 have returned to compliance levels as required by the UPDES permit, the Division will continue to closely monitor the situation. If TSS levels begin to trend upward out of compliance with the UPDES permit, the Division will reassess the mine-water routing methods discussed above.

Findings

The Division finds that the West Ridge Mining operation currently meets the applicable water quality and effluent limitation standards.

RECLAMATION PLAN

GENERAL REQUIREMENTS

Regulatory Reference: PL 95-87 Sec. 515 and 516; 30 CFR Sec. 784.13, 784.14, 784.15, 784.16, 784.17, 784.18, 784.19, 784.20, 784.21, 784.22, 784.23, 784.24, 784.25, 784.26; R645-301-231, -301-233, -301-322, -301-323, -301-331, -301-333, -301-341, -301-342, -301-411, -301-412, -301-422, -301-512, -301-513, -301-521, -301-522, -301-525, -301-526, -301-527, -301-528, -301-529, -301-531, -301-533, -301-534, -301-536, -301-537, -301-542, -301-623, -301-624, -301-625, -301-626, -301-631, -301-632, -301-731, -301-723, -301-724, -301-725, -301-726, -301-728, -301-729, -301-731, -301-732, -301-733, -301-746, -301-764, -301-830.

Analysis:

The Permittee states, on page 3 of the abatement plan, that the catchments will be reclaimed after the clean up of the channel is complete. Limited information is available about the vegetation and soils of the riparian zone and stream channel bottom. Page 2 of the application states that pre-construction photographs were taken. These photographs should be included in the application to provide some information about the stream corridor and compliance with R645-301-750. The Permittee also states that all reclamation will be done in accordance with the terms of the BLM right-of-way grant. The Permittee has not established a time frame for the completion of the abatement/mitigation and reclamation activities of the four catchments basins installed in the C canyon drainage (A, C, E, F). Permitting of the catchments under the R645 regulations was not necessary because the Division considered the catchments temporary sediment control measures to abate a violation. If it is found that the catchments will not be reclaimed by the end of the abatement period, the Division will require permitting under SMCRA.

Based upon information provided and discussed above under Hydrology Acid/Toxic Information, the Division will require that this material is buried under four feet of fill, if final disposal is at a DOGM permitted site.

Findings:

R645-301-340 and R645-301-750: Provide a detailed plan on how the catchments will be reclaimed including re-contouring the stream bed, removing embankments, preparing the seedbed, and seeding in order to restore the habitat along the corridor. [IW]

Provide a seed mix that will be used once the catchments have been removed and equipment access and storage areas have been backfilled in order to control erosion and improve the habitat that existed before the disturbance. [IW]

Include the pre-construction photographs mentioned on Page 3 of the Abatement plan that were taken of all of the catchments sites and are to be used during reclamation. [IW, PWB]

Per item # 4 of NOV # 10033, the Permittee must submit a time schedule to the Division for completion of Mitigation/Clean-up activities. If it is intention of the Permittee to retain the catchments beyond the established abatement date, the Division will require permitting under SMCRA. [IW, SKC]

RECOMMENDATIONS:

The mitigation and abatement plan cannot receive approval until the above noted deficiencies have been met.

The sludge and spent excelsior logs should be taken to the East Carbon waste disposal site.

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